chemistry analyzer, wherein said processor commands said immunoassay analyzer and clinical

chemistry analyzer to execute immunoassay and clinical chemistry measurements specified by a

program executed by the processor in order to facilitate diagnosis of a pathology for a subject

according to a reflex algorithm that includes at least one immunoassay and at least one clinical

chemistry assay and that represents a hierarchical decision-tree organization of biochemical

marker measurement steps, each of the biochemical marker measurement steps specifying a

measurement set comprising at least one immunoassay measurement or at least one clinical

chemistry measurement or at least one immunoassay and at least one clinical chemistry

measurement, wherein at least two of the biochemical marker measurement steps specify

non-identical measurement sets, and wherein the hierarchical decision-tree organization includes

at least a plurality of paths of the biochemical marker measurement steps wherein at least one of

the plurality of paths of biochemical marker measurement steps includes an immunoassay

measurement type and/or a clinical chemistry measurement type not required by another of said

plurality of paths of the biochemical marker measurement steps.

9. (Thrice Amended) A system for executing a sequence of biochemical marker measurement

steps to generate an indication of a pathology, each of the biochemical marker measurement steps

comprising measuring at least one concentration level or activity of at least one biochemical

marker in at least one of a urine, serum, plasma or whole blood sample, the system comprising:

  means for performing an immunoassay measurement;

  means for performing a clinical chemistry assay measurement;

  means for sample handling between the immunoassay measurement means and

the clinical chemistry assay measurement means;

  means for storing information representing a reflex algorithm indicating a

plurality of predetermined sequences of biochemical marker measurements;

  means for receiving information concerning outputs from biochemical marker

measurements conducted on the immunoassay means and the clinical chemistry assay means;

  means for selectively commanding said immunoassay measurement means and

said clinical chemistry assay means to perform a specified biochemical marker measurement

according to said reflex algorithm; and

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means for specifying an indication of the pathology according to the stored information in response to the information concerning outputs from biochemical marker measurements; and

wherein the reflex algorithm represents a hierarchical decision-tree organization of biochemical marker measurement steps, each of the biochemical marker measurement steps specifying a measurement set comprising at least one immunoassay measurement or at least one clinical chemistry measurement or at least one immunoassay and at least one clinical chemistry measurement, wherein at least two of the biochemical marker measurement steps specify non-identical measurement sets, and wherein the hierarchical decision-tree organization includes at least a plurality of paths of the biochemical marker measurement steps wherein at least one of the plurality of paths of biochemical marker measurement steps includes an immunoassay measurement type and/or a clinical chemistry measurement type not required by another of said plurality of paths of the biochemical marker measurement steps.

10. (Thrice Amended) A system for executing a sequence of biochemical marker measurement steps, each of the biochemical marker measurement steps comprising measuring at least one concentration level or activity of at least one biochemical marker in at least one of a serum, plasma or whole blood sample obtained from a subject at a time specified by a reflex algorithm, the system comprising:

immunoassay instrumentation that allows automatic execution of an immunoassay measurement;

clinical chemistry instrumentation that allows automatic execution of a clinical chemistry assay measurement;

a sample handling device coupled between said immunoassay instrumentation and said clinical chemistry instrumentation to allow sharing of samples therebetween;

a computer-readable medium that stores information that represents the reflex algorithm; and

a processor coupled to said immunoassay instrumentation, said clinical chemistry instrumentation, and said computer-readable medium, wherein said processor receives information representative of outputs from biochemical marker measurements conducted on the

immunoassay instrumentation and on the clinical chemistry instrumentation, and selectively commands said immunoassay instrumentation and said clinical chemistry instrumentation to execute the biochemical marker measurement according to the reflex algorithm; and

wherein the reflex algorithm represents a hierarchical decision-tree organization of biochemical marker measurement steps, each of the biochemical marker measurement steps specifying a measurement set comprising at least one immunoassay measurement or at least one clinical chemistry measurement or at least one immunoassay and at least one clinical chemistry measurement, wherein at least two of the biochemical marker measurement steps specify non-identical measurement sets, and wherein the hierarchical decision-tree organization includes at least a plurality of paths of the biochemical marker measurement steps wherein at least one of the plurality of paths of biochemical marker measurement steps includes an immunoassay measurement type and/or clinical chemistry measurement type not required by another of said plurality of paths of the biochemical marker measurement steps.